IN THE CLAIMS

Claim 1 (currently amended) An improved process for producing carbon monoxide from a monolith reactor comprising the steps:

a) feeding a feed gas comprising carbon monoxide, carbon dioxide, methane and hydrogen to a carbon dioxide separation system having at least one compressor;

b) feeding said feed gas from said carbon dioxide separation system to a carbon monoxide separation system;

c) feeding a hydrogen stream from said carbon monoxide separation system to a hydrogen separation system;

d) the improvement comprising recycling the tail gas from said hydrogen separation system and the fuel gas from said carbon monoxide separation system to said compressor in said carbon dioxide separation system.

Claim 2 (currently amended) The process as claimed in claim 1 further comprising recycling ~~the~~ a methane stream from said carbon monoxide separation system to said monolith reactor.

Claim 3 (original) The process as claimed in claim 1 wherein said carbon dioxide separation system comprises a compressor, a CO_2 adsorption column and a CO_2 stripper column.

Claim 4 (original) The process as claimed in claim 1 wherein said hydrogen separation system is a pressure swing adsorption system.

Claim 5 (original) The process as claimed in claim 1 wherein said carbon monoxide separation system comprises a cold box containing a separator vessel, stripper column and carbon monoxide / methane splitter column.

Claim 6 (original) The process as claimed in claim 1 wherein said monolith reactor comprises a metal catalyst consisting essentially of a metal supported by a ceria coating disposed on a ceramic monolith wherein said metal is selected from the group consisting of nickel, cobalt, iron, platinum, palladium, iridium, rhenium, ruthenium, rhodium and osmium said ceramic is selected from the group consisting of zirconia, alumina, yttria, titania, magnesia, ceria and cordierite and said ceria coating has a weight % between about 5% and about 30% with respect to said monolith.

Claim 7 (currently amended) The process as claimed in claim 1 further comprising producing ~~the production of~~ high purity hydrogen from said monolith reactor.

Claim 8 (original) The process as claimed in claim 1 wherein said tail gas comprises about 2:1 by volume of hydrogen to carbon monoxide.

Claim 9 (original) The process as claimed in claim 1 wherein said fuel gas comprises about 2:1 by volume of hydrogen to carbon monoxide.

Claim 10 (original) The process as claimed in claim 1 wherein said compressor compresses said feed gas to about 10 to about 50 bar(g).

Claim 11 (original) The process as claimed in claim 1 wherein carbon dioxide is removed from said feed gas in step (a).

Claim 12 (original) The process as claimed in claim 1 wherein carbon monoxide is removed from said feed gas in step (b).

Claim 13 (original) The process as claimed in claim 1 wherein hydrogen is removed from said feed gas stream as a raw H_2 stream in step (b) and further purified in step (c).

Claim 14 (currently amended) An improved process for producing carbon monoxide from a monolith reactor comprising the steps:

a) feeding a feed gas comprising carbon monoxide, carbon dioxide, methane and hydrogen to a carbon dioxide separation system having at least one compressor;

b) feeding said feed gas from said carbon dioxide separation system to a carbon monoxide separation system;

c) feeding a hydrogen stream from said carbon monoxide separation system to a hydrogen separation system;

d) the improvement comprising recycling the tail gas from said hydrogen separation system to said compressor in said carbon dioxide separation system.

Claim 15 (currently amended) The process as claimed in claim 14 wherein said improvement further comprises recycling ~~the~~ a fuel gas from said carbon monoxide separation system to said compressor in said carbon dioxide separation system.

Claim 16 (original) The process as claimed in claim 14 further comprising recycling the methane from said carbon monoxide separation system to said monolith reactor.

Claim 17 (original) The process as claimed in claim 14 wherein said carbon dioxide separation system comprises a compressor, a CO_2 adsorption column and a CO_2 stripper column.

Claim 18 (original) The process as claimed in claim 14 wherein said hydrogen separation system is a pressure swing adsorption system.

Claim 19 (original) The process as claimed in claim 14 wherein said carbon monoxide separation system comprises a cold box containing a separator vessel, stripper column and carbon monoxide / methane splitter column.

Claim 20 (original) The process as claimed in claim 14 wherein said monolith reactor comprises a metal catalyst consisting essentially of a metal supported by a ceria coating disposed on a ceramic monolith wherein said metal is selected from the group consisting of nickel, cobalt, iron, platinum, palladium, iridium, rhenium, ruthenium, rhodium and osmium said ceramic is selected from the group consisting of zirconia, alumina, yttria, titania, magnesia, ceria and cordierite and said ceria coating has a weight % between about 5% and about 30% with respect to said monolith.

Claim 21 (currently amended) The process as claimed in claim 14 further comprising ~~the production of~~ producing high purity hydrogen from said monolith reactor.

Claim 22 (original) The process as claimed in claim 14 wherein said tail gas comprises about 2:1 by volume of hydrogen to carbon monoxide.

Claim 23 (currently amended) The process as claimed in claim ~~14~~ 15 wherein said fuel gas comprises about 2:1 by volume of hydrogen to carbon monoxide.

Claim 24 (original) The process as claimed in claim 14 wherein said compressor compresses said feed gas to about 10 to about 50 bar(g).

Claim 25 (original) The process as claimed in claim 14 wherein carbon dioxide is removed from said feed gas in step (a).

Claim 26 (original) The process as claimed in claim 14 wherein carbon monoxide is removed from said feed gas in step (b).

Claim 27 (original) The process as claimed in claim 14 wherein hydrogen is removed from said feed gas stream as a raw H_2 stream in step (b) and further purified in step (c).